

**MINIATURE FLUID DISPENSING END-EFFECTOR FOR GEOMETRICALLY
CONSTRAINED AREAS**

ABSTRACT OF THE DISCLOSURE

An end-effector precisely marks location lines (or dispense fluids) on surfaces as part of an automated part marking system. The automated part marking system that includes a multi-axis gantry robot, a calibration stand, vision or location system(s), and a series of fluid dispensing (inkjet) end-effectors to accomplish the marking task. The end-effector use a pick shaped stylus coupled to a fluid supply and metered by a high-speed pulsed valve to precisely deliver fluids provides within geometrically confined spaces.